

Claims

1. Use of a coating composition comprising at least one polymeric micelle, wherein the polymeric micelle has a hydrophilic, neutral corona and a complex coacervate core, wherein the complex coacervate core is formed by charge complexation, for surface modification or surface treatment.  
5
2. Use of a coating composition according to claim 1, wherein the surface modification or surface treatment is for rendering at least one surface of a device protein-resistant.  
10
3. Use of a coating composition according to claim 1, wherein the surface modification or surface treatment is for preventing bacteria proliferation, disinfecting, suppressing odours, preventing malodour, or for providing easy-cleaning or soil-release properties.  
15
4. Use of a coating composition according to any of the preceding claims, wherein the polymeric micelle comprises at least a first and a second polymer.  
20
5. Use of a coating composition according to claim 4, wherein the first polymer and the second polymer are oppositely charged.
6. Use of a coating composition according to claim 4 or 5, wherein the first polymer is a block polymer with an ionic block comprising at least 6 chargeable groups.  
25
7. Use of a coating composition according to claim 6, wherein the ionic block is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
- 30 8. Use of a coating composition according to any of claims 4 - 7, wherein the first polymer comprises at least a hydrophilic and neutral block.

9. Use of a coating composition according to claim 8, wherein the hydrophilic and neutral block is a polyethylene glycol or a polyacrylamide, or a combination thereof.
- 5     10. Use of a coating composition according to any of claims 4 - 9, wherein the second polymer is a homopolymer, a random copolymer, a block polymer, a natural polymer, or a derivative thereof.
- 10    11. Use of a coating composition according to claim 10, wherein the homopolymer is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
- 15    12. Use of a coating composition according to any of claims 1-2 or 4-11, for rendering at least one surface of a device protein-resistant, for the reduction or prevention of protein adsorption and/or anti-fouling.
13. Use of a coating composition according to any of claims 1-2 or 4-12 for the coating of a biomedical device.
- 20    14. Use of a coating composition according to any of the preceding claims, wherein the coating composition is a paint or a sealant, preferably a boat paint.
- 15    15. Use of a coating composition according to any of claims 1 or 3-11, for preventing bacteria proliferation, disinfecting, suppressing odours, preventing malodour, or for providing easy-cleaning or soil-release properties, wherein the coating composition is a home-care or fabric-care or institutional-cleaning or industrial-cleaning composition.
- 25    16. Process for modifying a surface or treating a surface, said process comprising:  
30       (i) mixing at least a first and a second polymer in such amounts that the resulting mixture has a fraction of the total number of cationic polymeric groups over the total number of charged groups in the range of 0.2 to 0.8, wherein the first and

- the second polymer are oppositely charged and wherein the first polymer is a block polymer comprising at least a hydrophilic and neutral block; and
- (ii) bringing the resulting mixture under aqueous conditions in contact with the surface,
- 5 wherein the salt concentration in both steps is less than 1 M.
17. Process according to claim 16, wherein the surface is the surface of a device, and the process is a process for coating a device.
- 10 18. Process according to any of claim 16 or 17, wherein the first polymer is a block polymer with an ionic block comprising at least 6 chargeable groups.
- 15 19. Process according to claim 18, wherein the ionic block is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
20. Process according to any of claims 16 - 19, wherein the hydrophilic and neutral block is a polyethylene glycol, a polyglycerylmethacrylate or a polyacrylamide, or a combination thereof.
- 20 21. Process according to any of claims 16 - 20, wherein the second polymer is a homopolymer a random copolymer, a block polymer, a natural polymer, or a derivative thereof.
- 25 22. Process according to claim 21, wherein the homopolymer is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
23. Modified surface or treated surface obtainable by the process according to any of
- 30 claims 16 - 22.

24. Modified surface or treated surface comprising a coated surface, wherein the coated surface comprises at least one polymeric micelle immobilized to the surface, wherein the polymeric micelle has a charged core and a hydrophilic, neutral corona.
- 5 25. Modified surface or treated surface according to claim 24, wherein the surface is a surface of a device.
26. Modified surface or treated surface according to claims 24 or 25, wherein the polymeric micelle comprises a first and a second polymer.
- 10 27. Modified surface or treated surface according to claim 26, wherein the first polymer and the second polymer are oppositely charged.
- 15 28. Modified surface or treated surface according to claims 26 or 27, wherein the first polymer is a block polymer with an ionic block comprising at least 6 chargeable groups.
- 20 29. Modified surface or treated surface according to claim 28, wherein the ionic block is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
30. Modified surface or treated surface according to any of claims 26 - 29, wherein the first polymer comprises at least a hydrophilic and neutral block.
- 25 31. Modified surface or treated surface according to claim 30, wherein the hydrophilic and neutral block is a polyethylene glycol, a polyglycerylmethacrylate or a polyacrylamide, or a combination thereof.
- 30 32. Modified surface or treated surface according to any of claims 26 - 31, wherein the second polymer is a homopolymer, a random copolymer, a block polymer, a natural polymer, or a derivative thereof.

33. Modified surface or treated surface according to claim 32, wherein the homopolymer is selected from the group of polyacrylic acid, polymethacrylic acid, poly-(dimethylamino ethylmethacrylate) and poly(N-alkyl-4-vinylpyridinium).
- 5 34. Modified surface or treated surface according to any of claims 23-33, in which at least one polymeric micelle is physically bonded to the surface.